



SVEUČILIŠTE U ZAGREBU



Fakultet
elektrotehnike i
računarstva

**Inovacije i upravljanje
tehnologijom**

ID 183468

Tema 4

Uvođenje novog proizvoda / usluge (1): upravljanje tehnologijom

Prof. dr. sc. Vedran Podobnik

Sadržaj

- Evolucija tehnologija
- Evolucija industrija
- Evolucija tržišta
- Upravljanje tehnologijom

Definicije

RASPRAVA

- Znanost (*science*)

-

- Tehnologija (*technology*)

-

Definicije (Wikipedia)

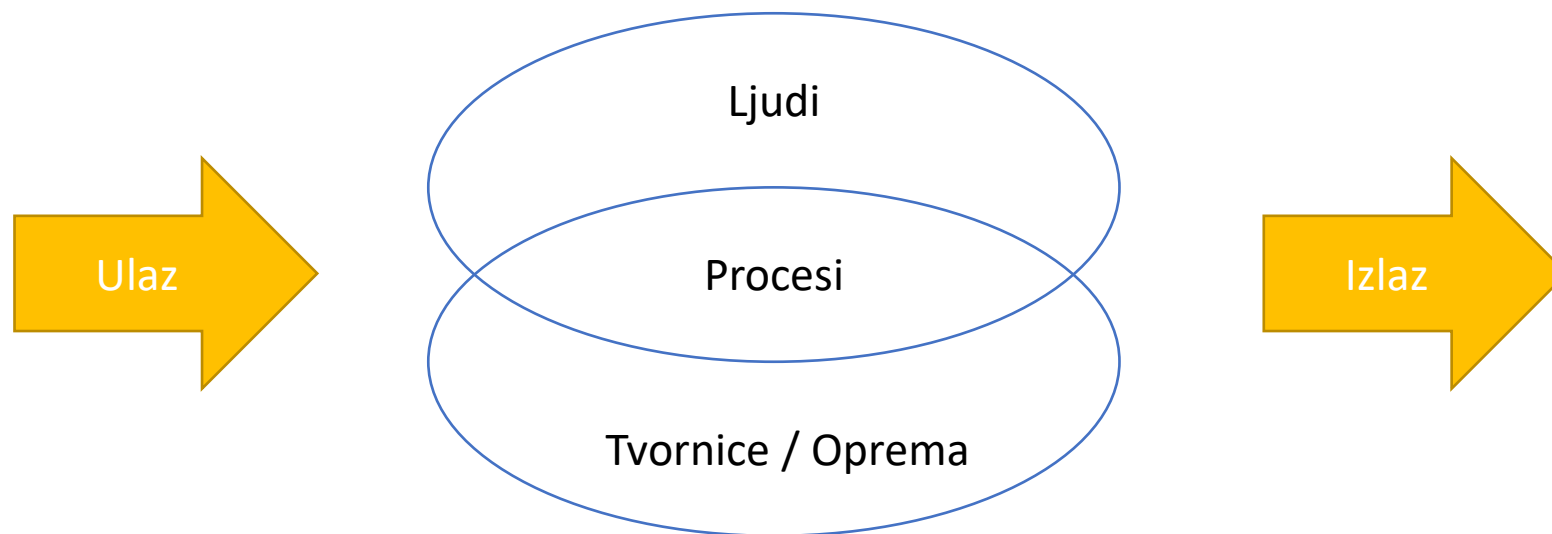
- **Science**

- from the Latin word scientia, meaning "knowledge"
- is a systematic enterprise that builds and organizes knowledge in the form of testable explanations and predictions about the universe

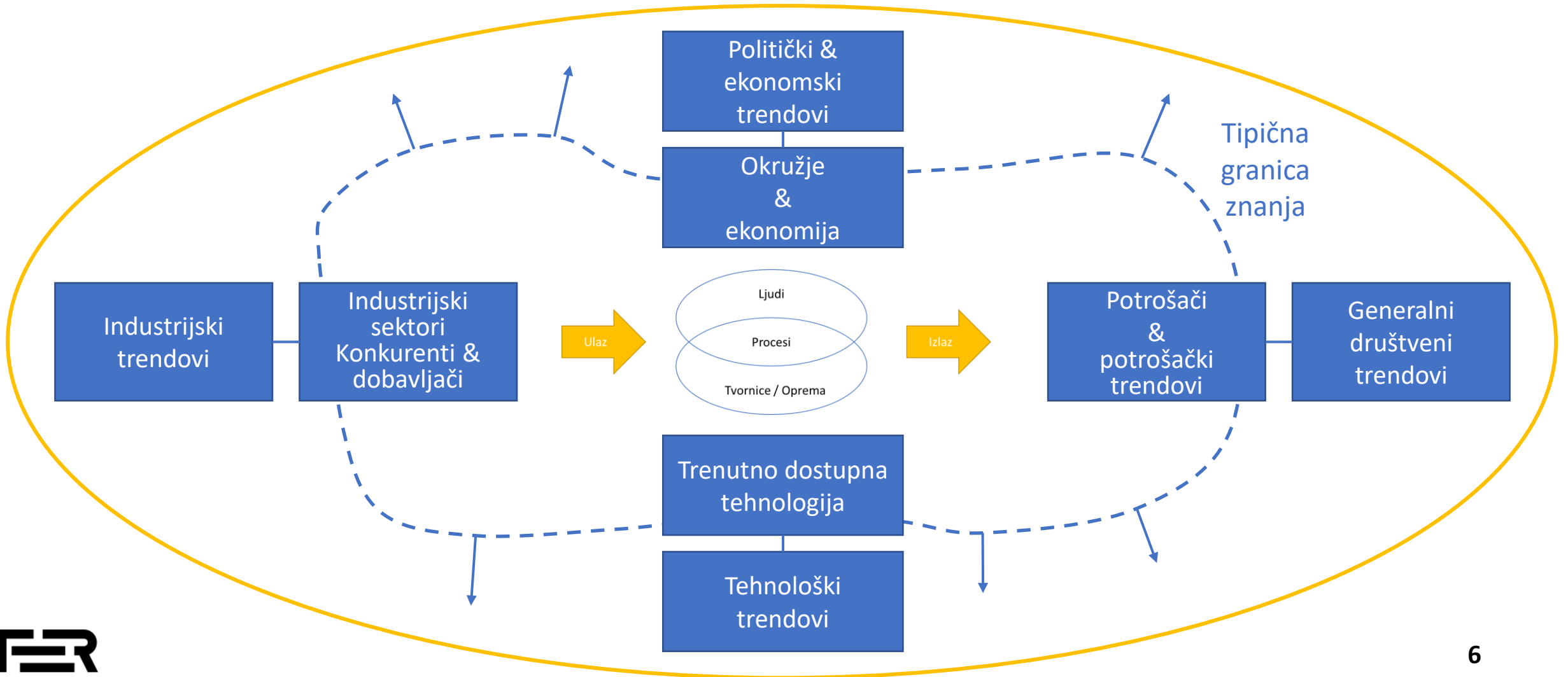
- **Technology**

- "science of craft", from Greek τέχνη, techne, "art, skill, cunning of hand"; and -λογία, -logia)
- is the sum of techniques, skills, methods, and processes used in the production of goods or services or in the accomplishment of objectives, such as scientific investigation

Kompanije...



... se nalaze unutar šireg konteksta



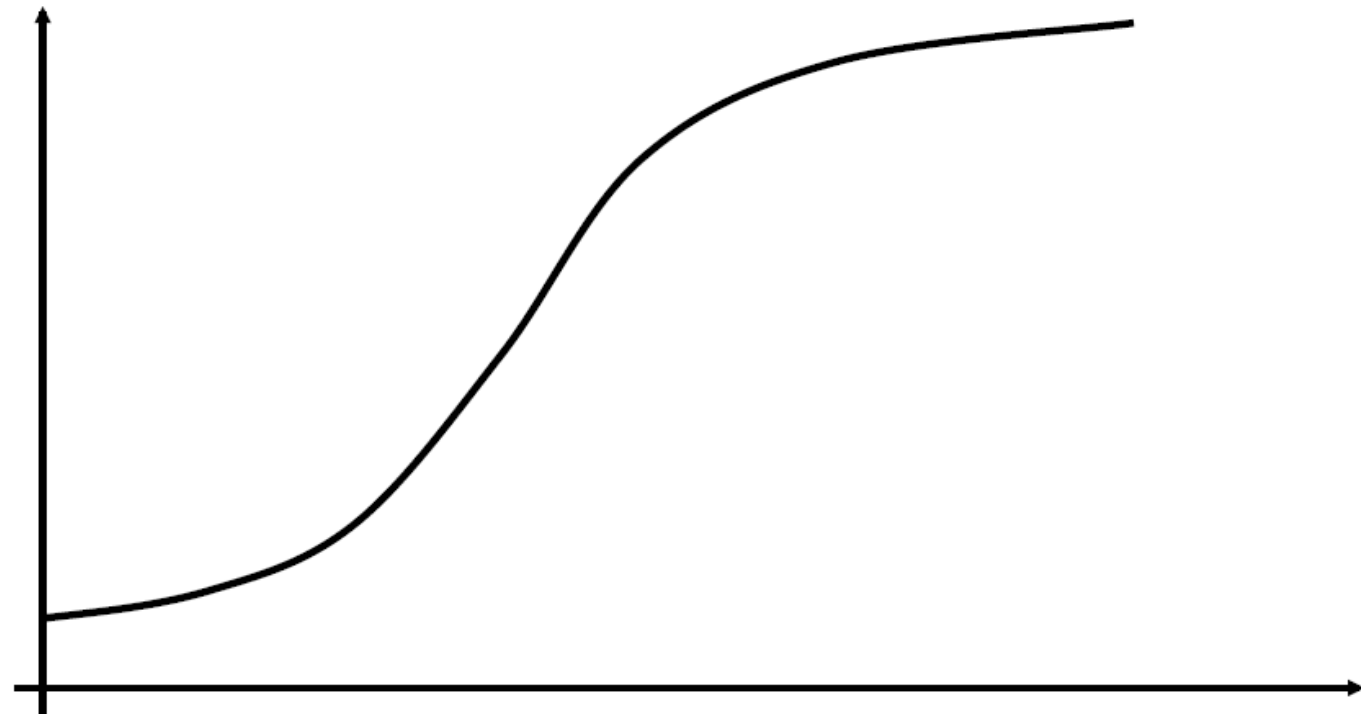
Upravljanje tehnologijom

- Prije nego pokušamo **upravljati** tehnologijom, trebamo **razumjeti** tehnologiju te veze s industrijom i tržištima:
 - Evolucija tehnologija
 - Evolucija industrija
 - Evolucija tržišta

Evolucija tehnologija

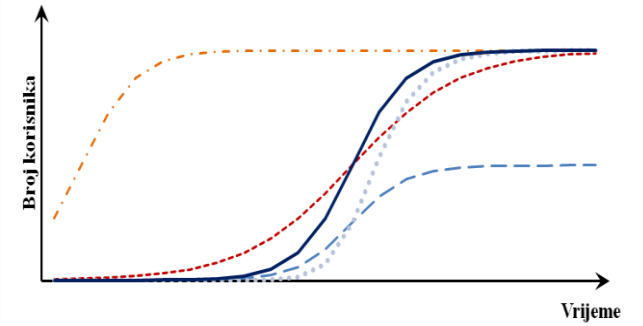
Evolucija tehnologije: “S-krivulja”

Performanse
Performance

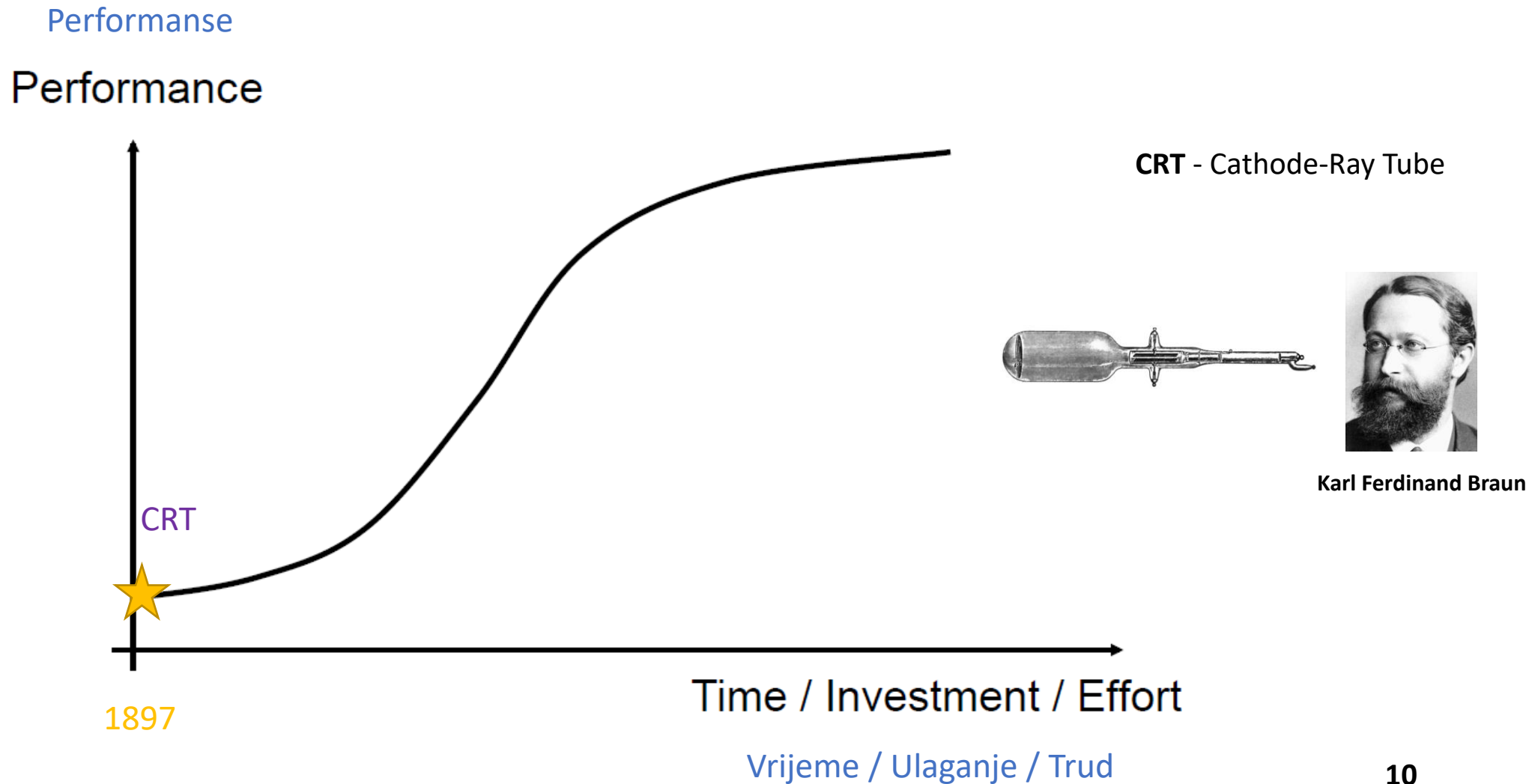


Time / Investment / Effort

Vrijeme / Ulaganje / Trud



S-krivulja: tehnologija elektroničkih zaslona (1)



CRT tehnologija



1939 New York World's Fair

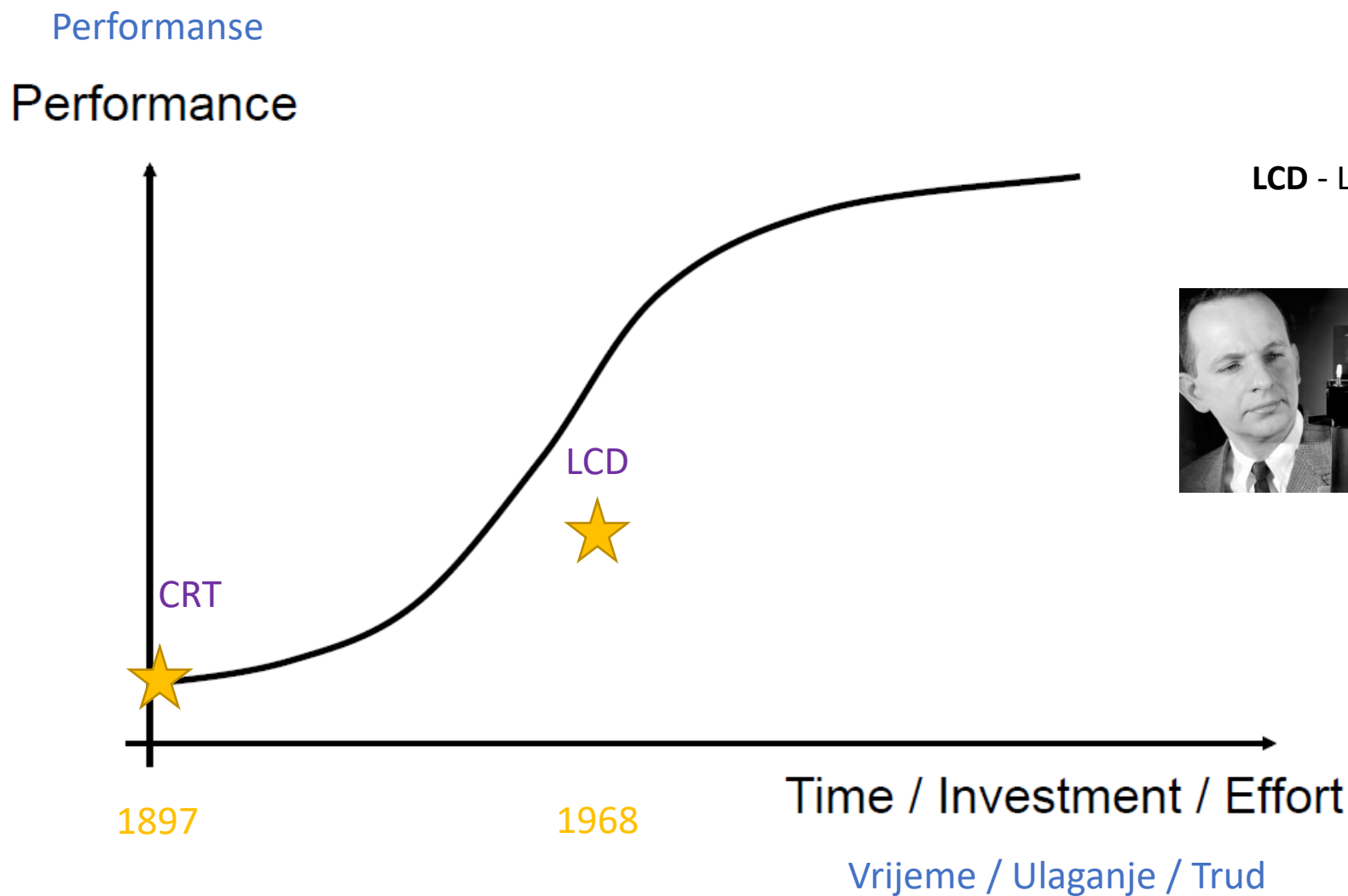


RCA CT-100 (1954)
~\$10,000 (današnji \$\$\$)



Sony PVM-4300
43", 200 kg

S-krivulja: tehnologija elektroničkih zaslona (2)



LCD - Liquid-Crystal Display



George H. Heilmeyer

LCD tehnologija

LCD tehnologija se najprije koristila za ...



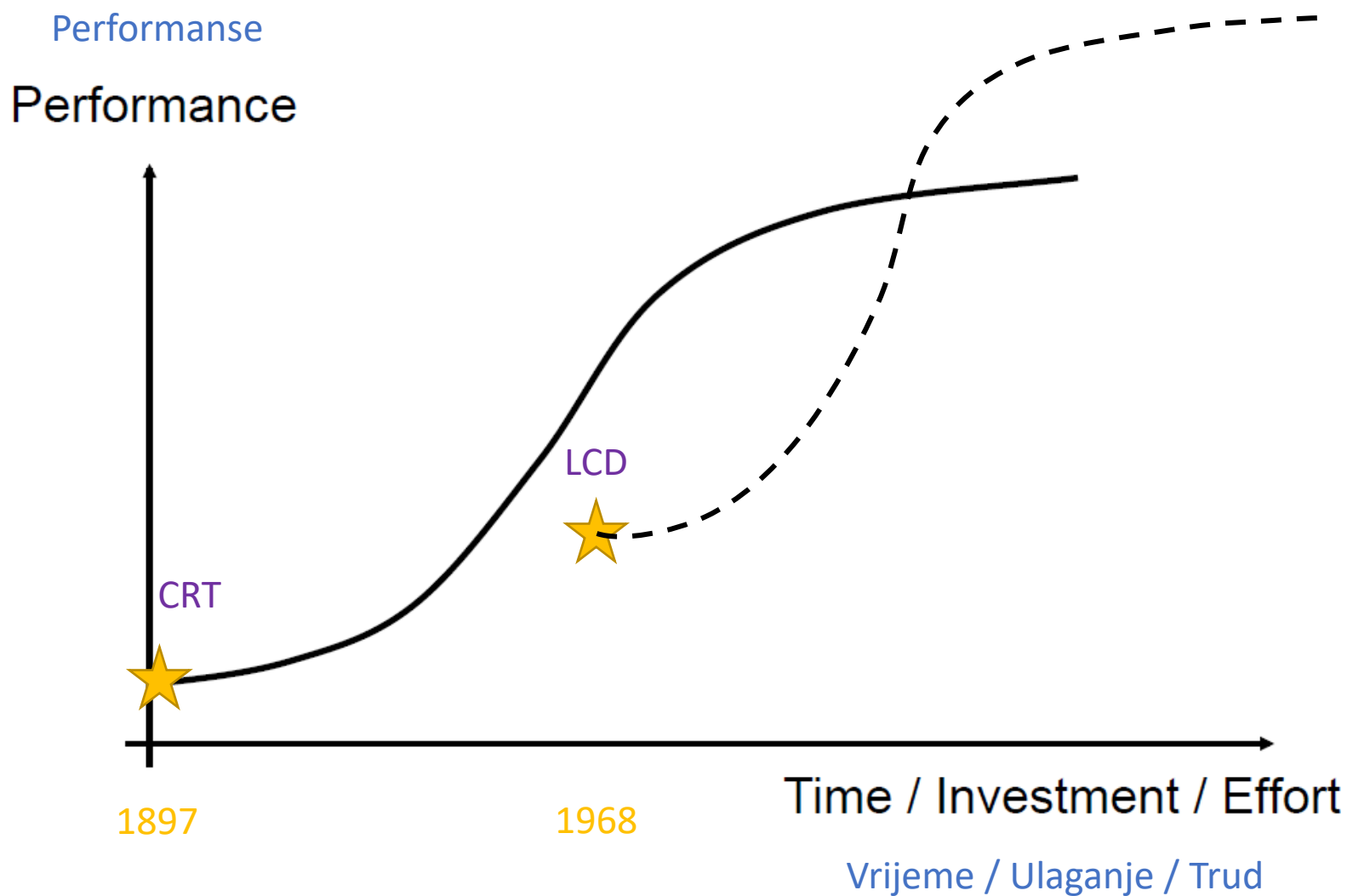
LCD tehnologija je omogućila veliku novost za računala – **portabilnost**



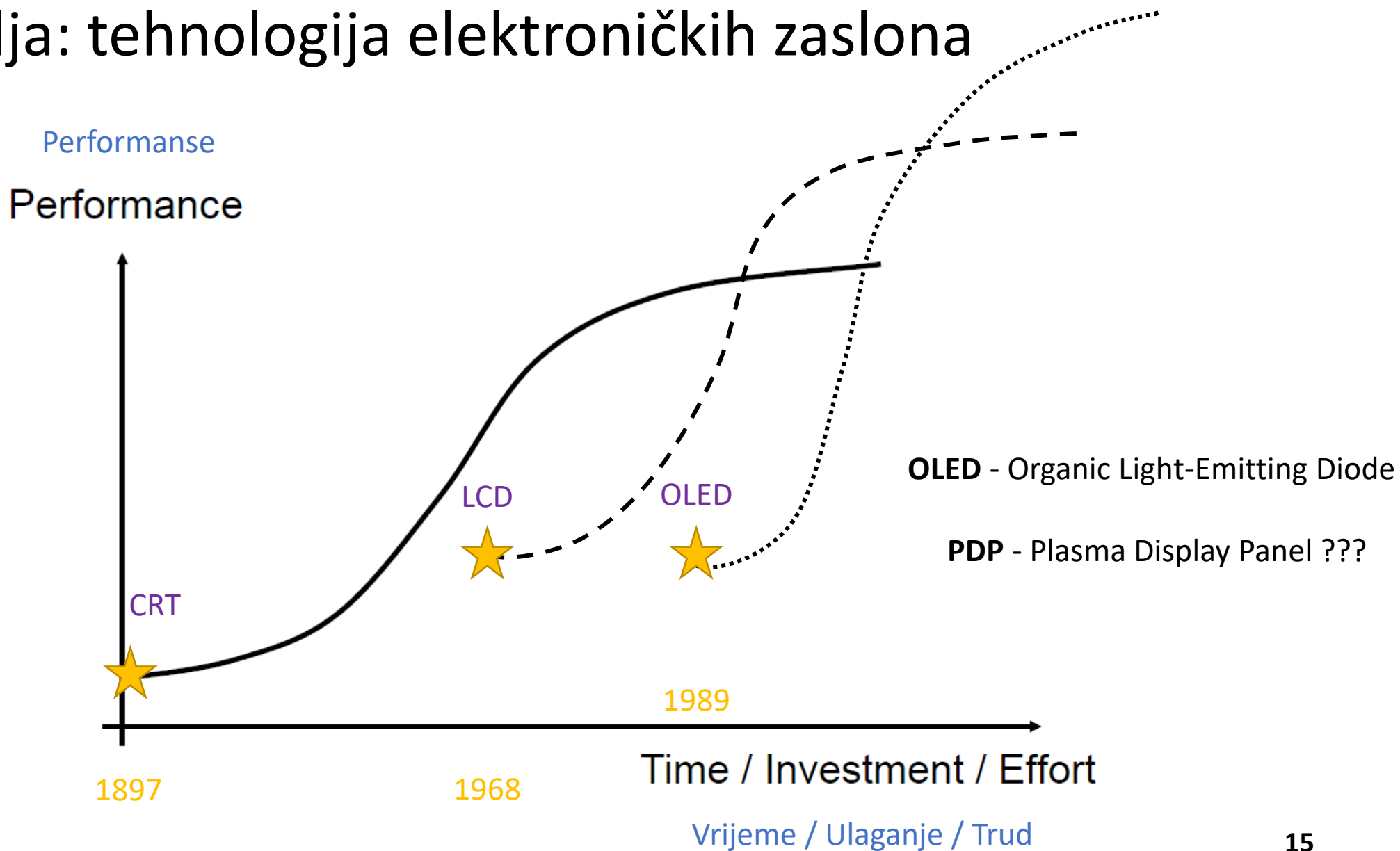
Povećana ulaganja u LCD tehnologiju su dovela do ...



S-krivulja: tehnologija elektroničkih zaslona

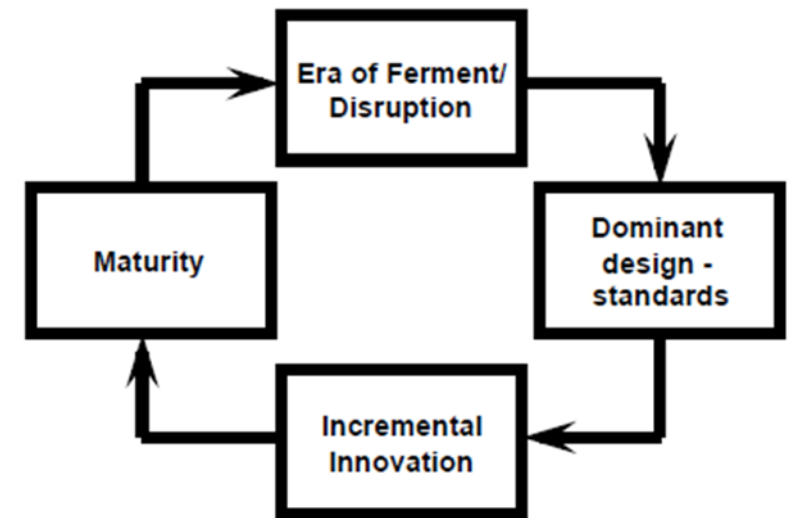
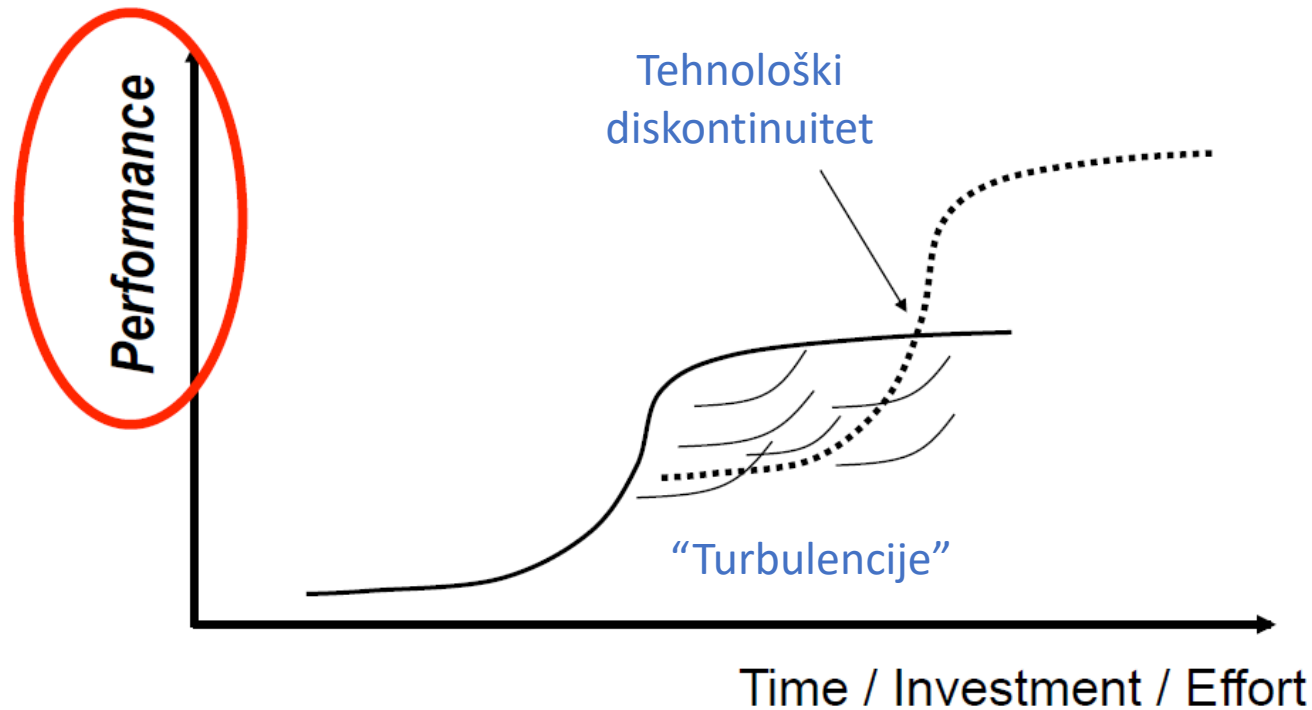


S-krivulja: tehnologija elektroničkih zaslona



Evolucija industrija

Evolucija industrija: tehnološki diskontinuitet



Evolucija industrija: studijski slučaj “Kodak”



- Osnovan 1888.
- Izrasao u dominantnu kompaniju u industriji fotografije
 - 85% tržišta prodaje kamera aparata (1976., SAD)
 - 90% tržišta prodaje filmova (1976., SAD)
- 1975. razvio i patentirao prvu digitalnu kameru
- 2012. Kodak bankrotirao



Evolucija tržišta

Definicije

RASPRAVA

- Izum (*invention*)

-

- Inovacija (*innovation*)

-

- Difuzija (*diffusion*)

-

Definicije (Wikipedia)

- **Invention**

- is a unique or novel device, method, composition or process

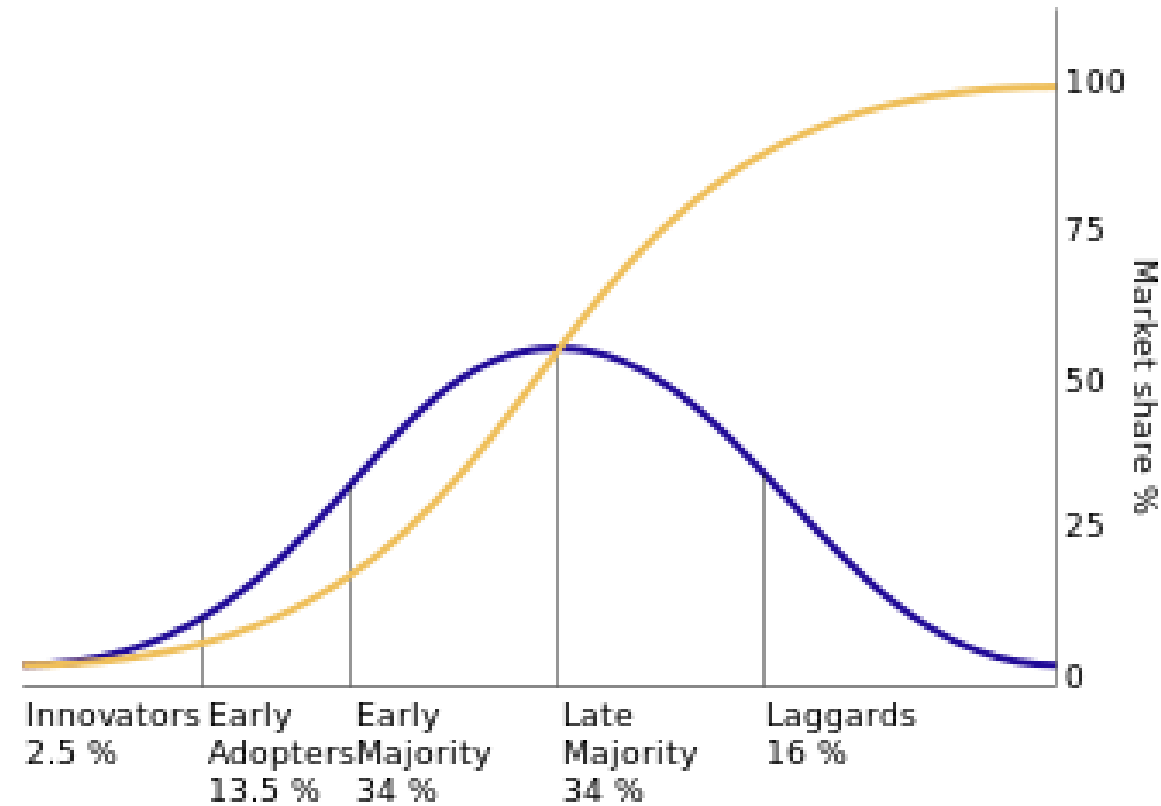
- **Innovation**

- is the practical implementation of ideas that result in the introduction of new goods or services or improvement in offering goods or services

- **Diffusion**

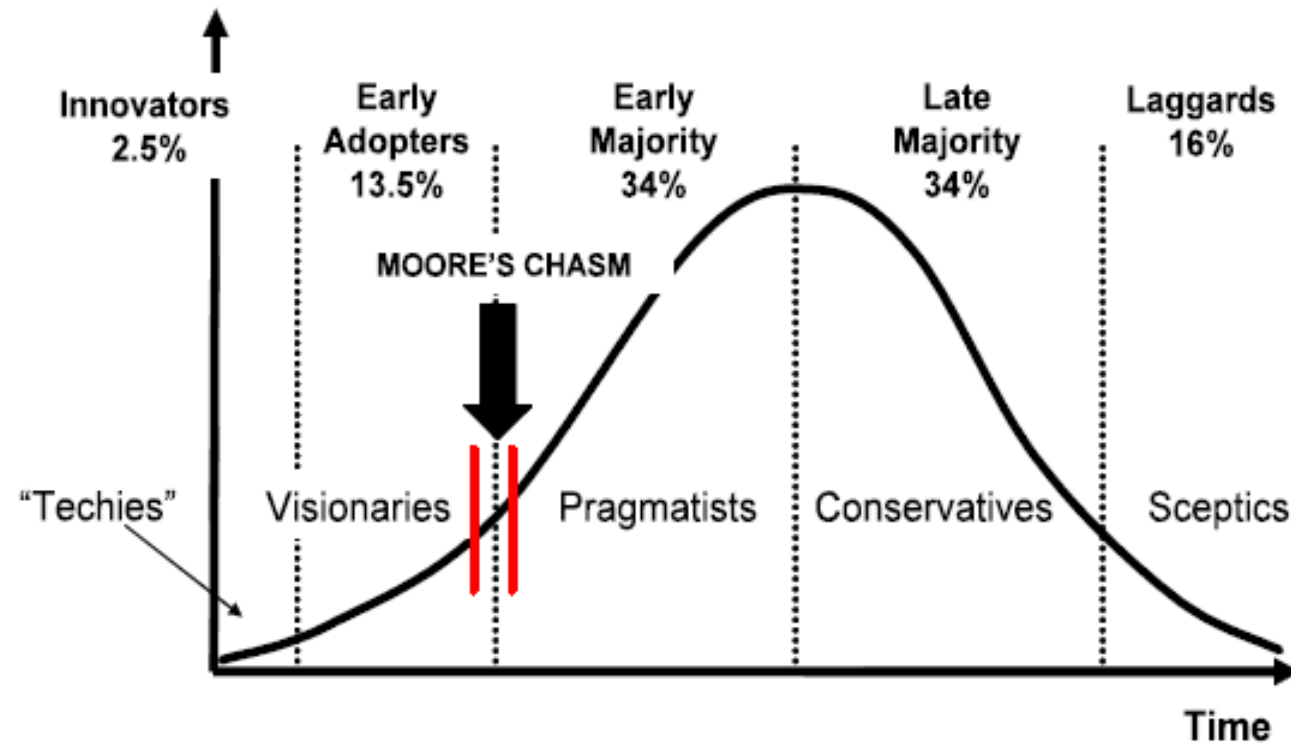
- is the net movement of anything (for example, atoms, ions, molecules, energy) from a region of higher concentration to a region of lower concentration

Evolucija tržišta: difuzija inovacija



Rogers, "Diffusion of Innovations" (1962)

Evolucija tržišta: Moorov “jaz”



Moore, "Crossing the Chasm: Marketing and Selling Technology Products to Mainstream Customers" (1999)

Evolucija tržišta: “crossing the chasm” (1)

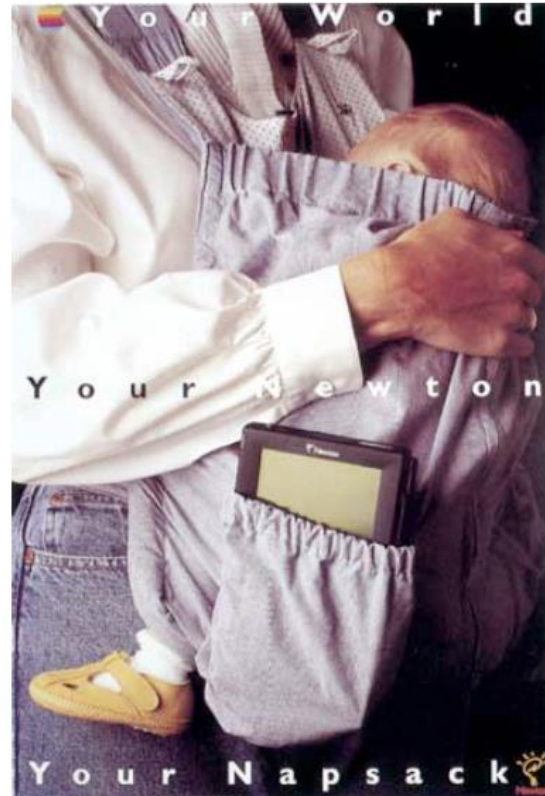
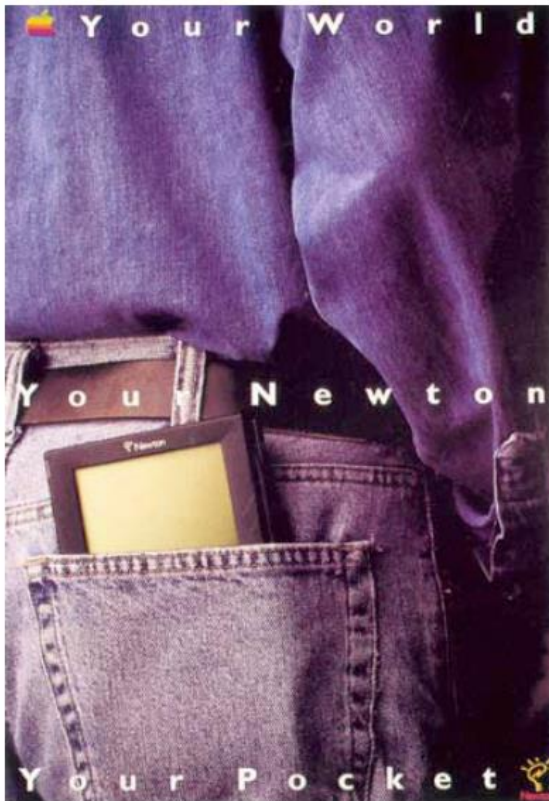


Apple Newton
1993-1998



Palm Pilot
1997

Evolucija tržišta: “crossing the chasm” (2)



- Odabir ciljanog tržišta
- Razumijevanje koncepta cijelovitog proizvoda / usluge
- Pozicioniranje proizvoda / usluge
- Građenje marketinške strategije
- Odabir najprikladnijeg distribucijskog kanala
- Cijena

Evolucija tržišta: “crossing the chasm” (3)



Friendster
2002



Facebook
2004

Upravljanje tehnologijom

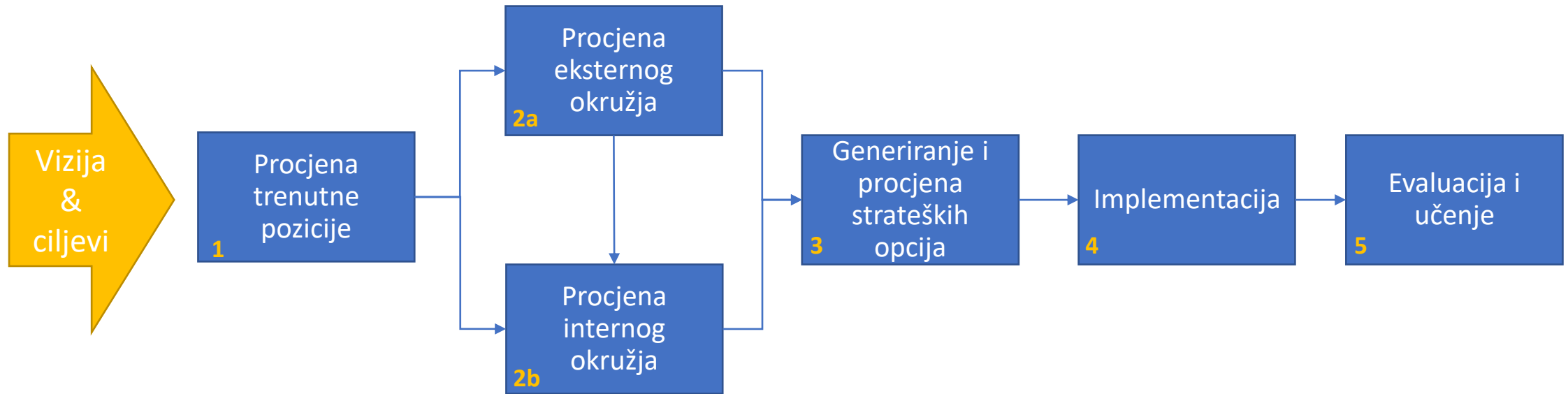
- Upravljanje tehnologijom (*technology management*)
 -

Definicije (Wikipedia)

- **Technology Management**

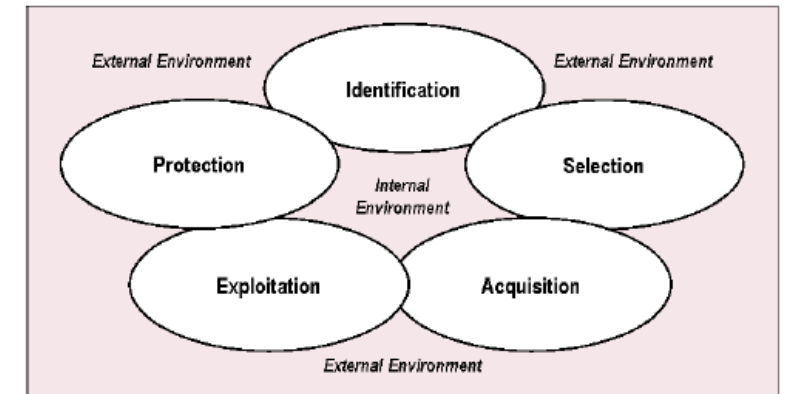
- is a set of management disciplines that allows organizations to manage their technological fundamentals to create customer advantage
- typical concepts used in technology management are:
 - technology strategy
 - technology forecasting
 - technology roadmap, and
 - technology project portfolio and technology portfolio

Generički strateški procesni model



- Teorija: linearan i racionalan proces
- Praksa: složen i iterativan proces

Proces upravljanja tehnologijom



Gregory, "Technology Management: A Process Approach" (1995)

**PROČITATI ČLANAK
– PRIPREMA ZA
SLJEDEĆE
PREDAVANJE**

Pročitajte - pogledajte

- Kodak: <https://www.youtube.com/watch?v=eVrmFgvEnAA&ab>
- Anthony, “Kodak’s Downfall Wasn’t About Technology” (HBR 2016):
 - [https://www.fer.unizg.hr/download/repository/Kodak's Downfall Wasn't About Technology - Lecture 4.pdf](https://www.fer.unizg.hr/download/repository/Kodak's_Downfall_Wasn't_About_Technology_-_Lecture_4.pdf)
- Gregory, “Technology Management: A Process Approach” (1995):
 - [https://www.fer.unizg.hr/download/repository/Gregory - Technology Management Process Approach.pdf](https://www.fer.unizg.hr/download/repository/Gregory_-_Technology_Management_Process_Approach.pdf)